

Supplementary Figures

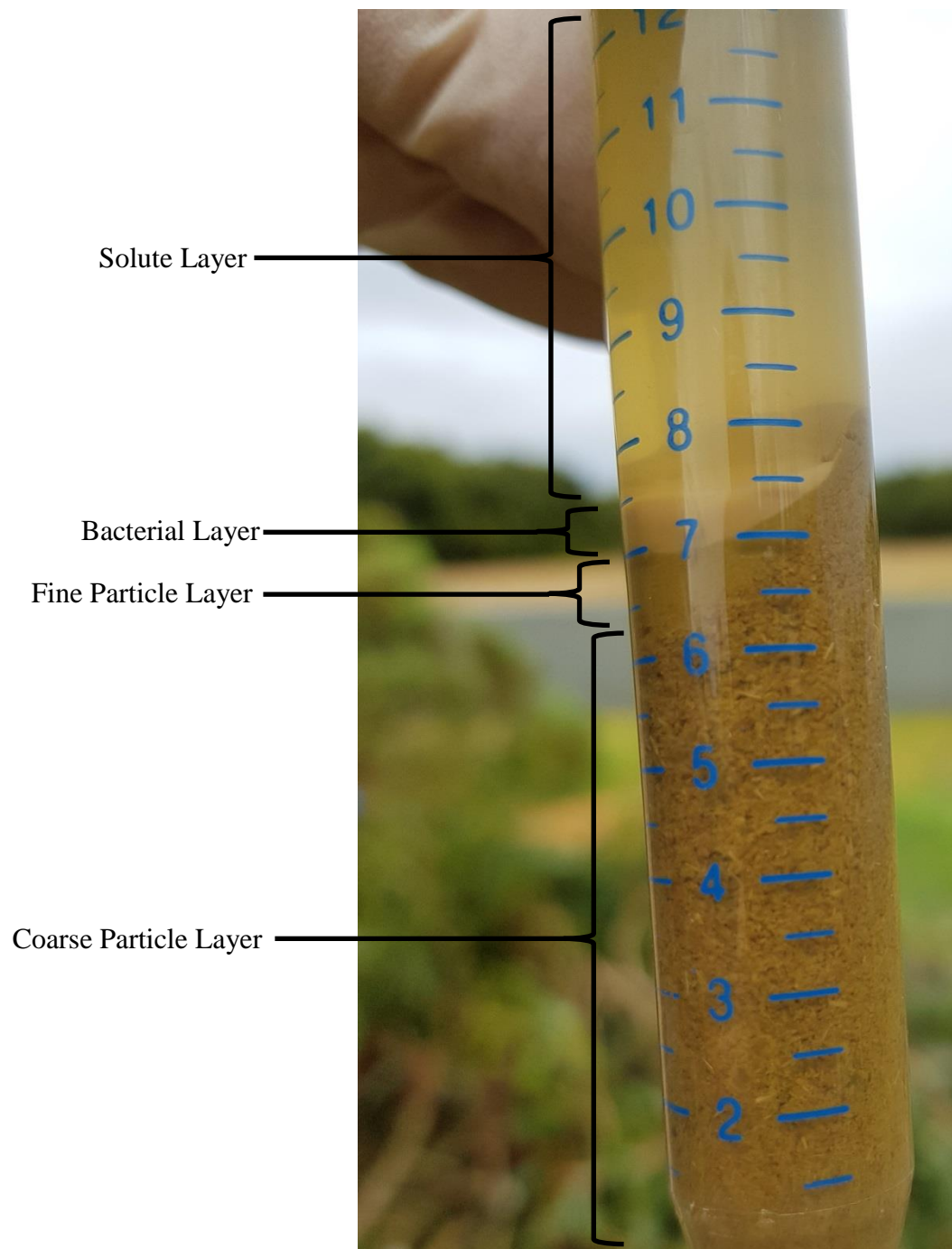


Fig S1: Image of the layers formed when the faecal samples were mixed with $\frac{1}{4}$ Ringers solution to form a slurry and centrifuged for 15 minutes.

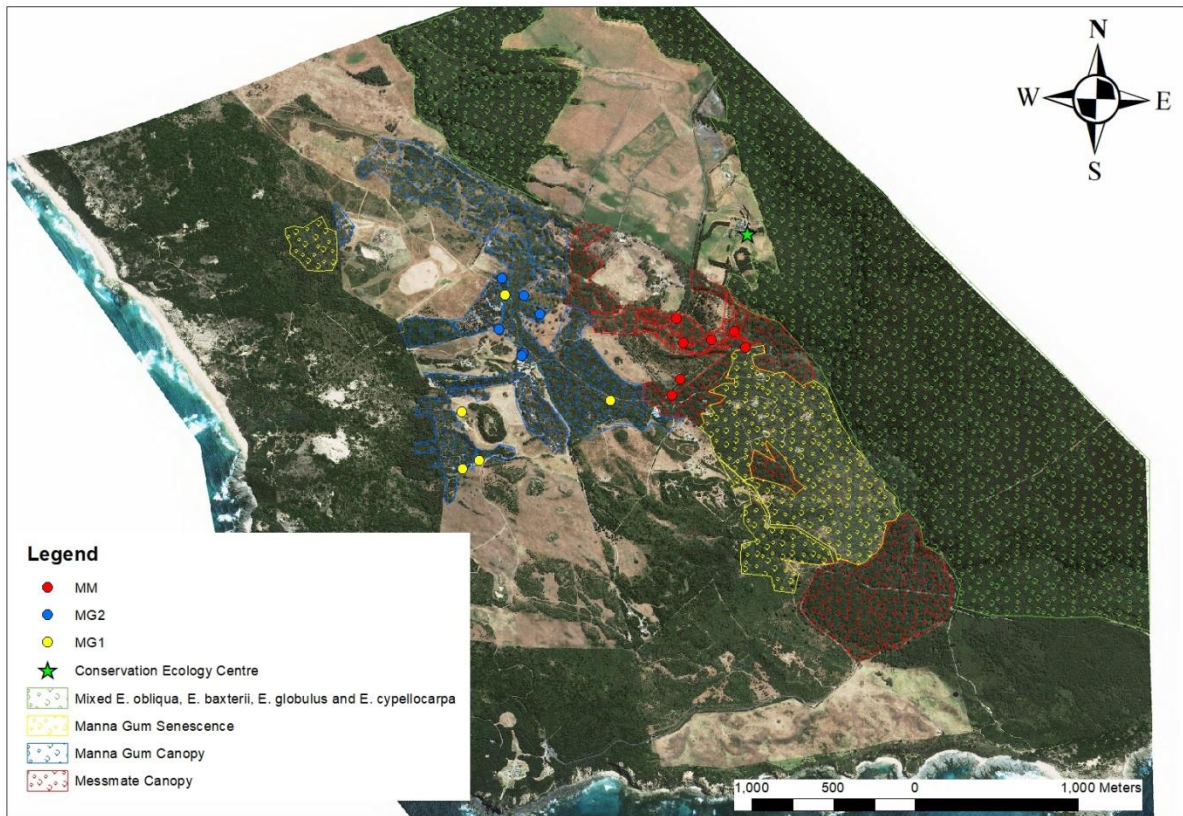


Fig S2: Map of study site indicating koala capture locations, eucalypt forest type and site of location of captive experiment. MG1 = captive koala cohort 1, MG2 = captive koala cohort 2, MM = treatment donor koalas.

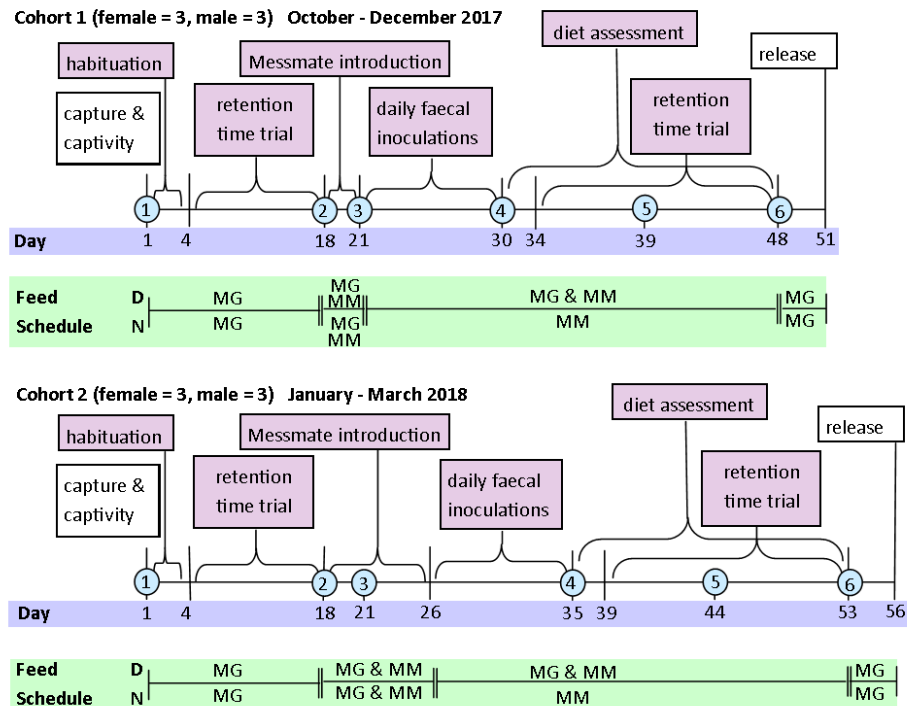


Fig S3: Timeline for faecal inoculation experiment. Blue circles indicate when faecal samples were collected for microbiome assessment. In the green feeding schedule bar, MG = manna gum; and MM = messmate. D=Day, N=Night.

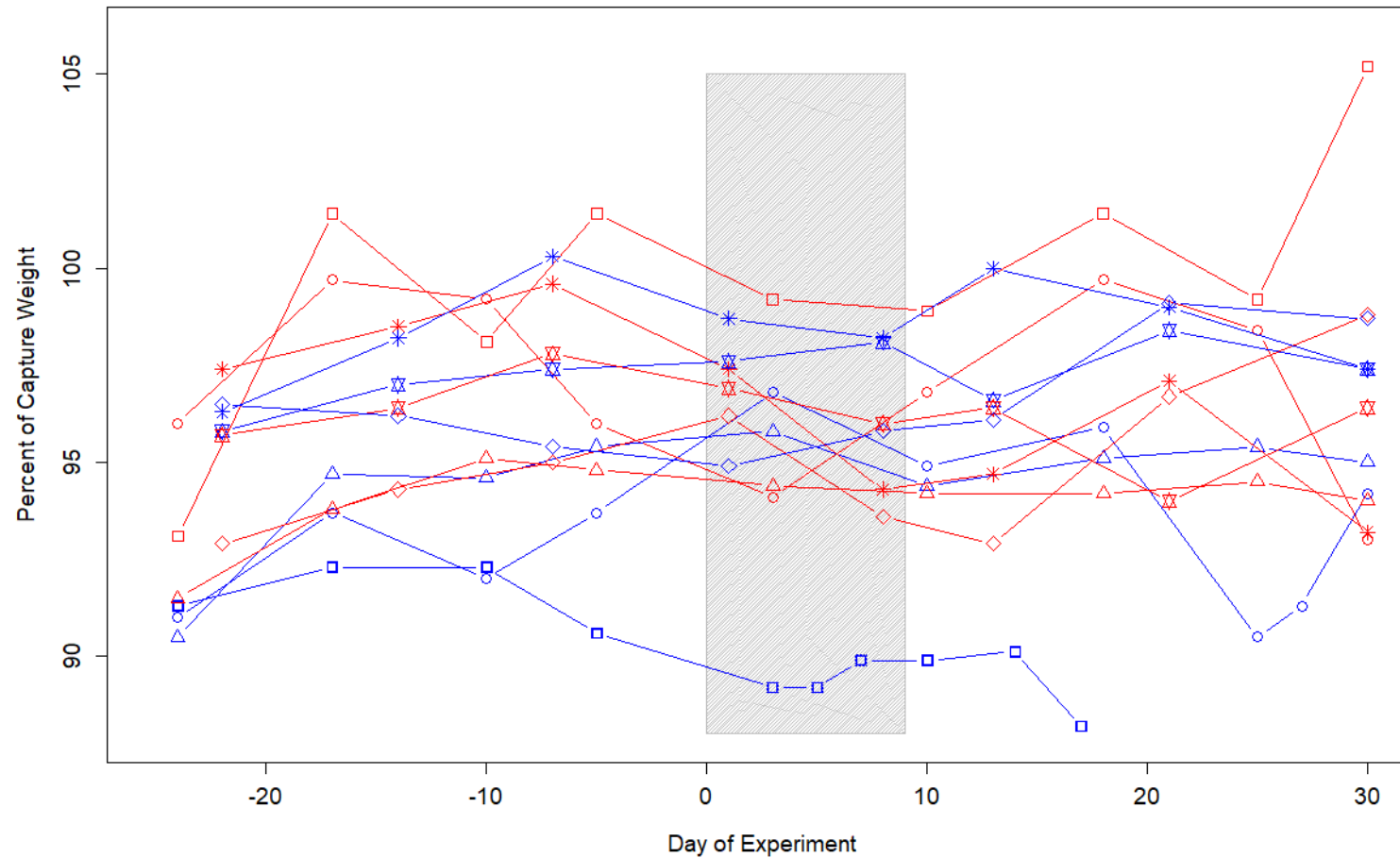


Fig S3: Weights of the captive koalas over time. Experiment day 0 was the first day of the faecal inoculations. The inoculation period is indicated by the grey box. Each koala is represented by a different symbol. Control koalas are shown in blue and treatment koalas are shown in red. The control koala shown by the open square was released 9 days after the faecal inoculations concluded due to unacceptable weight loss.